

relation to each other or as mere variations in breadth or limitations in scope with respect to each other.

Regarding combination/subcombination relationships, MPEP 805(C) states in pertinent part --

In order to establish that combination and subcombination inventions are distinct, two-way distinctness must be demonstrated.

To support a requirement for restriction, both two-way distinctness and reasons for insisting on restriction are necessary, i.e., separate classification, status, or field of search.² See MPEP Section 808.02.

The inventions are distinct if it can be shown that a combination as claimed:

(A) does not require the particulars of the subcombination as claimed for patentability (to show novelty and unobviousness), and

(B) the subcombination can be shown to have utility either by itself or in other and different relations.

The second aspect (Specification at 6) is the combination of the first aspect with shift means for selecting between the upper and lower case symbols assigned to the keys; thus, the first aspect is a subcombination of the second aspect. Here, criterion A is not met because the second aspect does require the particulars of the first aspect (subcombination) for patentability; that is, for patentability of the second aspect we necessarily have to specify the attribute classes set forth in the subcombination. Furthermore, there is no difference between the first and second aspects as to classification, status or field of search. Accordingly, there is no basis for restriction as between the first and second aspects of the invention.

The subject of claims of varying breadth and scope is addressed in MPEP 806.03, entitled "Single Embodiment, Claims Defining Same Essential Features." MPEP 806.03 states in pertinent part --

Where the claims of an application define the same essential characteristics of a single disclosed embodiment of an invention, restriction therebetween should never be required. This is because the claims are but different definitions of the same disclosed subject matter, varying in breadth or scope of definition.

This principle has repeated application to the various aspects of the applicant's invention, as discussed below.

² The Office Action makes no reference to any of these criteria.

The third aspect is not distinct from the first and second aspects of the invention. The third aspect is just a limitation on the scope of the second aspect in which symbols of the fourth attribute class are assigned to keys in any one column and symbols in the seventh attribute class are assigned to keys in any one other column. This third aspect simply limits the number of column-wise permutations that are permitted compared to the second aspect. It is improper to restrict claims that differ only by reciting matters of degree or equivalent elements whose interchangeability is self-evident. It is self-evident that one can interchange the columns to which one assigns symbols in selected attribute classes (here, attribute classes four and seven) because the facilitation in learning is achieved primarily by the sorting of symbols according to geometrically defined attribute classes, and only secondarily (if at all) by assignments of symbols to particular columns or rows.

The fourth aspect of the invention must be considered similarly to the third aspect: again, the only difference is that the keys in any one column correspond to symbols in the sixth attribute class, so the fourth aspect is not distinct for the same reasons that the third aspect is not distinct: interchangeability among columns is self-evident and we have here a mere limitation on the scope of the second aspect.

Similarly for the fifth aspect, wherein keys in any one column correspond to symbols in the first attribute class: interchangeability among columns is self-evident and we have here a mere limitation on the scope of the second aspect.

Similarly for the sixth aspect, wherein keys in any one column correspond to symbols in the second attribute class: interchangeability among columns is self-evident and we have here a mere limitation on the scope of the second aspect..

Likewise for the seventh aspect, wherein keys in any one column correspond to symbols in the third attribute class: interchangeability among columns is self-evident and we have here a mere limitation on the scope of the second aspect.

Likewise for the eighth aspect, wherein keys in any one column correspond to symbols in the fifth attribute class: interchangeability among columns is self-evident and we have here a mere limitation on the scope of the second aspect.

Likewise for the ninth aspect, wherein keys in any one column correspond to symbols in the eighth attribute class: interchangeability among columns is self-evident and we have here a mere limitation on the scope of the second aspect.

Likewise for the tenth aspect, wherein keys in any one column correspond to symbols in the ninth attribute class: interchangeability among columns is self-evident and we have here a mere limitation on the scope of the second aspect.

Likewise for the eleventh aspect, wherein keys in any one column correspond to symbols in the tenth attribute class: interchangeability among columns is self-evident and we have here a mere limitation on the scope of the tenth aspect.

In the twelfth aspect, at least some of the keys correspond to an upper case symbol and a lower case symbol selected from the group of paired upper and lower case symbols comprising / and 2, - and 3, + and 4, (and 6, & and 0, \$ and 8,) and 9, # and 7. This twelfth aspect is just a limitation on the scope of the second aspect in that we have limited the scope of combinations and permutations available in the second aspect for combining and selecting, by shift means, the way we can pair symbols in the various attribute classes to just those specified in the twelfth aspect (i.e., / and 2, - and 3, et cetera). A mere limitation on scope does not afford grounds for finding these aspects patentably distinct.

Likewise, in the thirteenth aspect of the invention, the number of columns is ten and the keys in columns number 1 through 10 correspond to symbols in attribute classes 1 through 10, respectively; accordingly, this again is merely a limitation on the scope of the second aspect, by choosing from the keyboards arrangements that are available in the second aspect only that subset specified in the thirteenth aspect.

Likewise, the fourteenth aspect of the invention is merely a further limitation on the scope of the second aspect, by limiting the scope of the thirteenth aspect further – namely, by requiring that the keys in columns 1 through 10 in any one of the rows correspond to the paired upper and lower case symbols / and 2, - and 3, + and 4, (and 6, % and 0, \$ and 8,) and 9, # and 7, ! and 1, \ and 5, respectively.

Likewise, the fifteenth aspect is merely a limitation in scope of the second aspect, wherein the keys in columns 1 through 10 in any one of the rows correspond to the paired

upper and lower case symbols V and v, H and h, Y and y, C and c, U and u, S and s, D and d, T and t, I and I, N and n, respectively.

Likewise, the sixteenth aspect is merely a limitation in scope of the second aspect, wherein the keys in columns 1 through 10 in any one of the rows correspond to paired upper and lower case symbols W and w, F and f, A and a, G and g, O and 0, B and b, P and p, Z and z, J and j, K and k, respectively.

Likewise, the seventeenth aspect is merely a limitation in scope of the second aspect, wherein the keys in columns 1 through 10 in any one of the rows correspond to paired upper and lower case symbols “ and ’, E and e, X and x, @ and ., Q and q, : and :, R and r, ? and ,, M and m, respectively.

Likewise, the eighteenth aspect is merely a limitation in scope of the second aspect, wherein the keys in columns 1 through 10 in the first row correspond to paired upper and lower case symbols / and 2, - and 3, + and 4, (and 6, % and 0, \$ and 8,) and 9, # and 7, ! and 1, \ and 5, respectively; and similarly, paired combinations of symbols are specified for rows two, three and four.

Likewise, the nineteenth aspect is merely a self-evident extension of the scope of the second aspect, by further including two additional attribute classes – namely, a class having at least one curvilinear line and a class of symbols having no curvilinear line.³ This extension of scope is self-evident since attribute classes are defined based upon the geometric line elements that comprise symbols, and it is self evident that symbols can be parsed into separate groupings based upon whether they do or do not contain at least one curvilinear line.

Likewise, in the twentieth aspect, the keys that correspond to capital letter symbols in the twenty-seventh⁴ class are distributed substantially among four columns only. This is merely a limitation on the scope of the nineteenth aspect, which itself is merely a limitation on the scope of the second aspect.

Likewise, in the twenty-first aspect, the keys that correspond to capital letter symbols in the twenty-eighth class are distributed substantially among four columns only.

³ These two attribute classes were erroneously labeled a twenty-sixth class and a twenty-seventh class, respectively; they should be re-labeled as a twenty-seventh and a twenty-eighth class. The first aspect has already specified the twenty-six attribute classes prior to introduction of these two additional attribute classes.

This is merely a limitation on the scope of the nineteenth aspect, which itself is merely a limitation on the scope of the second aspect.

Likewise, in the twenty-second aspect, the keys that correspond to capital letter symbols in the twenty-eighth⁵ class are distributed substantially among at least five columns. This is merely a limitation on the scope of the nineteenth aspect, which itself is merely a limitation on the scope of the second aspect.

Likewise, in the twenty-third aspect, the four columns referred to in either of the twenty-first aspect or the twenty-second aspect are centrally disposed and at least five columns are outlier columns disposed to the left and the right of said four columns. This is merely a limitation on the scope of the twenty-first and twenty-second aspect, which in turn are merely limitations on the scope of the nineteenth and second aspects.

In the twenty-fourth aspect, each one of at least some of the keys corresponds to a paired combination of an upper case letter symbol with a lower case symbol of the same letter, further comprising shift means for selecting between the upper and lower case of said letter symbol. This is substantially identical to the second aspect and no reason appears for concluding that it is patentably distinct therefrom.

In the twenty-fifth aspect, keyboard arrangements of the kind included within the second aspect are described, including shift means for selecting between the upper and lower case form of each letter symbol. Each letter symbol is assigned either to a first, curved class if the symbol includes a curved line or to a second, noncurved class if the symbol lacks and curved line. This parsing initially places this aspect within the nineteenth aspect; however, further limitations are imposed to require that there be at least two keys in a column to which symbols of the curved class are assigned, and there be at least two keys in another column to which symbols of the noncurved class are assigned. Thus, we have again merely a limitation on the scope of the nineteenth aspect (which is just a limitation on the scope of the second aspect).

The twenty-sixth aspect is merely a limitation on the scope of the twenty-fifth aspect, by imposing the further requirement that the keys that correspond to capital letter symbols in the twenty-sixth class are distributed among adjacent columns.

⁴ Erroneously referred to as the twenty-sixth class in the specification.

⁵ Erroneously labeled the twenty-seventh attribute class at Specification at 9, line 8.

The twenty-seventh aspect is merely a limitation on the scope of twenty-fifth aspect, in that the capital letter symbols assigned to the curved class substantially all correspond to keys in four centrally-disposed columns, and the capital letter symbols assigned to the noncurved class substantially all correspond to keys in outlier columns.

The twenty-eighth aspect is merely a limitation on the scope of the twenty-seventh aspect, in that each column that contains at least two keys that correspond to letter symbols in the curved class also contains at least one key that corresponds to a number symbol in the curved class.

The twenty-ninth aspect is merely a limitation on the scope of the twenty-eighth aspect, wherein the number symbols corresponding to keys in the four centrally-disposed columns all belong to the curved class.

The thirtieth aspect is merely a limitation on the scope of the twenty-seventh aspect of the invention, wherein the letter symbols assigned to the noncurved class substantially all correspond to keys in the centrally-disposed columns, and the letter symbols assigned to the curved class substantially all correspond to keys in outlier columns. This is, in turn, just a limitation on the scope of the twenty-fifth, nineteenth and second aspects of the invention, in that order.

The thirty-first aspect is merely a limitation on the scope of the thirtieth aspect of the invention, wherein the number symbols that correspond to keys in outlier columns all belong to the curved class.

The thirty-second aspect is merely a limitation on the scope of the twenty-eighth through the thirty-first aspects, wherein the number symbols assigned to the curved class are exemplified by 2, 3, 5, 6, 8, 9, and 0. It is self-evident that these numeric symbols belong to the curved class for each of the clearly include curved line elements.

The thirty-third aspect is merely a limitation on the scope of the twenty-fifth aspect, wherein the letter symbols from the curved class are assigned to a column and letter symbols from the noncurved class are assigned to a different column.

The thirty-fourth aspect is merely a limitation on the scope of the twenty-fifth aspect, wherein the letter symbols from the class that contains a vertical, straight line is assigned to a column and letter symbols from the class that contains a horizontal straight line are assigned to another column.

The thirty-fifth aspect is merely a limitation on the scope of the twenty-fifth aspect, wherein all keys corresponding to letter symbols from the class that contains a top-left oblique line are assigned to a column and all keys corresponding to letter symbols from the class that contains a top-right oblique line are assigned to another column.

The thirty-sixth aspect is merely a limitation on the scope of the second aspect, wherein left convex curved letter symbols are assigned to keys in a first column; right convex curved letter symbols are assigned to a second column; vertical straight line letter symbols are assigned to a third column; horizontal straight line letter symbols are assigned to a fourth column; top-left oblique line letter symbols are assigned to a fifth column; and top-right oblique line letter symbols are assigned to a sixth column.

The thirty-seventh aspect is merely a limitation on the scope of the second aspect, wherein left convex curve letter symbols are assigned to a first column; right convex curve letter symbols are assigned to a second column; vertical, straight line letter symbols are assigned to a third column; horizontal, straight line letter symbols are assigned to a fourth column; top-left oblique line letter symbols are assigned to a fifth column; and top-right oblique letter symbols are assigned to a sixth column.

The thirty-eighth aspect is merely a limitation on the scope of the third aspect, wherein a substantial number of the keys that correspond to numbers also correspond to punctuation or special character symbols such that said keys correspond to one or more pairs of symbols selected from the pairs 2 and /, 3 and -, 4 and 6 and (, 7 and #, 8 and \$, 9 and), 0 and %.

The thirty-ninth aspect is merely a limitation on the scope of the thirty-sixth aspect, wherein the keys that correspond to numbers and that

also correspond to punctuation or special character symbols are all within the same row. And, as stated above, the thirty-sixth aspect is merely a limitation on the scope of the second aspect.

The thirty-ninth aspect is the combination of the second aspect, wherein the keys have been preassigned to correspond with a first set of symbols, with computer hardware or software means for reassigning the preassigned keys to correspond to a second set of symbols in the same or a different language alphabet. Thus, aspect 2 is a subcombination of the thirty-ninth aspect. To require restriction as between the combination and the subcombination, MPEP 805(C) states that two-way distinctness must be demonstrated. Two-way distinctness cannot be demonstrated because criterion A is not met: that is, the combination of the thirty-ninth aspect does require the particulars of the subcombination of the second aspect as claimed for patentability (to show novelty and unobviousness). Hardware and software means for reassigning symbols to keys from a first symbol set to a second symbol set are old in the art. Novelty and unobviousness here require the novelty and unobviousness of the subcombination that is aspect 2.

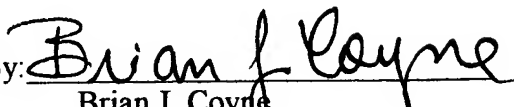
The fortieth aspect is a merely a limitation on the scope on the third aspect, wherein all keys that correspond to number symbols are within the same row and consecutively arranged in numerical order from left to right as 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 in columns 1 through 10, respectively.

Again, just as there is no difference between the first and second aspects as to classification, status or field of search, there likewise is no difference among the third through fortieth aspects as to classification, status or field of search. Accordingly, one must conclude that there is no basis for restriction among aspects one through forty of the invention.

Accordingly, the applicant requests reconsideration and withdrawal of the restriction requirement.

Respectfully submitted this 12th day of May, 2004.

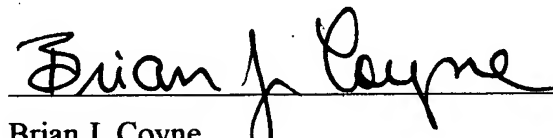
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